



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

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March 9, 2018

CERTIFIED MAIL - RETURN RECEIPT REQUESTED
7012 1640 0000 3799 6386

Ms. Rebecca Fisher
WildEarth Guardians
2590 Walnut Street
Denver, CO 80205

PROTEST DECISION

DISMISSED

I. INTRODUCTION

On December 14, 2017, a Lease Sale Notice for the Montana State Office (MSO), March 13, 2018, Competitive Oil and Gas Lease Sale was posted, which initiated a 30-day protest period. At the same time, the Butte Field Office (BFO), Billings Field Office (BiFO), and North Central Montana District (NCMD) Oil and Gas Leasing Environmental Assessments (EAs), updated after a 30-day public comment period, were made available to the public.

In a letter to the Bureau of Land Management (BLM) dated January 11, 2018 (Enclosure 1), Wild Earth Guardians, Center for Biological Diversity, Montana Environmental Information Center, Northern Plains Resource Council, Park County Environmental Council, Preserve the Beartooth Front, and 350 Montana (Protesters) submitted a timely protest to the inclusion of 109 parcels located in the BFO, BiFO, and NCMD planning areas, Montana.

II. BACKGROUND

Public scoping for this lease sale was conducted from August 15-29, 2017. This scoping period was announced in a press release issued by the Montana State Office. The BFO, BiFO and NCMD also posted National Environmental Policy Act (NEPA) notification log, reference numbers DOI-BLM-MT-L002-2017-0003-EA, DOI-BLM-MT-L002-2017-0002-EA, and DOI-

BLM-MT-L0002-2017-0004-EA, respectively. In addition, the MSO mailed surface owner notification letters explaining the oil and gas leasing and planning processes. The letters requested written comments regarding any issues or concerns that should be addressed in the EA being prepared for the parcel. The Protesters submitted scoping comments on air quality, water quality, hydraulic fracturing, the Federal Land Policy and Management Act (FLPMA), the Mineral Leasing Act (MLA), and greater sage-grouse (GRSG).

On September 30, 2017, the BLM Montana/Dakotas released the BFO, BiFO and NCMD Oil and Gas Leasing EAs for a 30-day public comment period. The EAs analyzed the potential effects from offering 109 nominated lease parcels in Montana containing 63,495 acres of Federal Mineral Estate in the March 13, 2018, Competitive Oil and Gas Lease Sale. Relevant public comments received during this process were addressed in the EA, as appropriate. The Protesters submitted comments on the EAs regarding NEPA, hydraulic fracturing, Reasonably Foreseeable Development (RFD), Beartooth Front, Livingston, GRSG, air quality, social cost of carbon (SCC), MLA, and FLPMA. The EAs were updated and posted, along with the competitive sale list, on December 14, 2017, on the BLM's ePlanning website for a 30-day protest period.

After a careful review, BLM has decided to defer 23 BiFO parcels and three (3) BFO parcels due to potential environmental impacts presented in the EAs and public comments. See Enclosure 3 for a description of the deferred parcels. Any arguments within this Protest on deferred parcels are considered moot. The Butte and Billings Field Managers, and the NCMD District Manager recommended that 83 parcels be included in the March 13, 2018 lease sale. As a result of the Decision Record, a total of 83 nominated lease parcels (46,175 acres of Federal minerals) would be offered for lease at the MSO, March 13, 2018, Competitive Oil and Gas Sale with lease stipulations and/or lease notices as necessary for the proper protection and conservation of the resources associated with the lease issuances.

III. PROTEST ANALYSIS

Protest Summary: The Protesters submitted a timely protest (via letter) dated January 11, 2018, to the inclusion of 109 parcels identified in the MSO, March 13, 2018, Notice of Competitive Oil and Gas Lease Sale.

Protest Contentions and BLM Response:

I. The BLM's Three Environmental Assessments Violate the National Environmental Policy Act.

The BLM's three environmental assessments fall short of complying with NEPA for six reasons. First, the BLM continues to improperly segment its NEPA analyses into three different EAs which subsequently defer analysis of impacts to the Application Permit to Drill ("APD") stage. Second, the BLM continues to fail to analyze a reasonable range of alternatives. Third, the BLM fails to fully analyze the impacts from hydraulic fracturing and horizontal drilling in the lease sale EAs or underlying Resource Management Plans

("RMPs") and Final Environmental Impact Statements ("FEISs"). Fourth, the BLM fails to accurately estimate reasonably foreseeable development for the various lease parcels. Fifth, the BLM fails to analyze the direct and cumulative impacts from the issuance of the lease parcels in conjunction with other BLM lease sales. Finally, the agency fails to assess the significance of greenhouse gas emissions in terms of carbon costs from the lease sale.

A. The BLM Improperly Segments the March 2018 Lease Sale into Three Environmental Assessments.

NEPA mandates that "[a]gencies shall use the criteria for scope (§ 1508.25) to determine which proposal(s) shall be the subject of a particular statement. Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement." *Id.* § 1502.4. In order to adequately assess the scope of the environmental impacts of a proposed action, the BLM must evaluate three types of actions: (1) connected actions, (2) cumulative actions, and (3) similar actions. *Id.* § 1508.25. Connected actions "are closely related and therefore should be discussed in the same impact statement." *Id.* Actions are connected if they: "(i) Automatically trigger other actions which may require environmental impact statements; (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously; (iii) Are interdependent parts of a larger action and depend on the larger action for their justification." *Id.* Cumulative actions are those actions that "when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." *Id.* Similar actions are those actions that "when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." *Id.*

"The purpose of this requirement [40 C.F.R. § 1508.25] is to prevent an agency from dividing a project into multiple actions, each of which individually has an insignificant environmental impact, but which collectively have a substantial impact." *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 969 (9th Cir. 2006) (citation and internal quotation marks omitted). Unfortunately, attempting to avoid a finding of significance by dividing the March 2018 lease sale into three EAs is precisely what the BLM does here.

There are a number of reasons why BLM should analyze all of the lease parcels in a single NEPA document. To start, the Butte and Billings Field Office lease sale parcels are directly adjacent to each other geographically, as shown by the map below. *See also*, BLM, *Map of Oil and Gas Parcels Under Review for March 13, 2018 Competitive Lease Sale*, https://eplanning.blm.gov/epl-front-office/projects/nepa/87486/116883/142560/Oil_and_Gas_Parcels_Under_Review_March_2018_BLM_Montana_Competitive_Lease_Sale.pdf. Indeed, the BLM admits in the Butte and Billings EAs that wells from these parcels could be drilled into the same formation-the Crazy Mountain Basin. *See* Billings FO EA at 16-17; Butte FO EA at 12. Thus, at a

minimum, the lease parcels for the Butte and Billings FO's are cumulative, similar actions based on potentially significant on-the-ground impacts, geographic location, and timing.

Case law in the Ninth Circuit also supports the conclusion that the BLM should consider all of the lease parcels together in a single NEPA document. In *Blue Mountains Biodiversity Project v. Blackwood*, the Ninth Circuit held that five potential logging projects in the same watershed were cumulative actions because "all of the proposed [timber] sales were reasonably foreseeable [and] ... developed as part of a comprehensive forest recovery strategy." 161 F.3d 1208, 1215 (9th Cir. 1998). The court then noted that "[a]t the very least, these sales raise substantial questions that they will result in significant impacts." *Id.* Here, the BLM admits that industry could drill a minimum of 8 wells within the Crazy Mountain Basin in the Billings Field Office and a minimum of 4 wells within the Basin in the Butte Field Office. Furthermore, as shown by the map below, at least one of these four wells (MTM 108952-FR, in purple) would occur right on the border between field offices.

Clearly, development within the same geological formation is reasonably foreseeable, and, a combined total of 12 wells within the same geological formation could reasonably result in cumulative, significant impacts_ NEPA is clear. "Significance cannot be avoided by ... breaking [an action] down into small component parts." 40 C.F.R. § 1508.27(b)(7).

In response, the BLM argues that it prepared three EAs for the March sale due to workload considerations and that the respective RMPs/FEISs for each BLM field office contain the required cumulative analysis. *See, e.g.,* Billings EA, App'x G at 3-4; Butte EA, App'x D at 3; Hi-Line EA, App'x F at 2. But, this argument fails for a number of reasons. Environmental impacts are not constrained by BLM field office borders, and NEPA does not provide an exemption to section 1508.25 based on agency workload. More importantly, the Ninth Circuit has soundly rejected the BLM's latter argument. As the court stated in *Blue Mountains Biodiversity Project*, "[n]othing in the tiering regulations suggests that the existence of a programmatic EIS for a forest plan obviates the need for any future project-specific EIS, without regard to the nature or magnitude of a project." 161 F.3d at 1214. In sum, the BLM cannot rely on the RMPs/FEISs from each field office to meet its requirements under NEPA because the RMPs do not contain site-specific analyses for the lease sale parcels. Moreover, the BLM cannot arbitrarily divide its NEPA analysis for the March lease sale into three separate documents when it is clear that the significant environmental impacts of the parcels could occur within the same geographic location.

Additionally, the need to consider the entire lease sale in one NEPA document extends to all of the lease parcels, not just those in the Butte and Billings FO. As discussed in more detail in section G, there are multiple federal lease sales occurring over the same time period and in similar locations, and these sales will cause significant greenhouse gas emissions. Because of these potentially cumulative, significant impacts, the BLM must look at the March lease sale as one federal action under NEPA.

BLM Response:

The BLM prepared three EAs for the March 2018 sale primarily due to workload considerations (i.e., ID Teams from each FO worked on their specific EAs). All EAs tier to the respective Resource Management Plans (RMP), and these RMPs contain cumulative impacts at the appropriate scales for the full RFDs done in each FO. The decisions on what areas to not lease, lease with standard, moderate, or major stipulations is done at the RMP level in order to look at the larger picture of impacts (including cumulative impacts). There are no surface-disturbing activities authorized at the leasing stage.

B. The BLM Improperly Defers Its Site-Specific NEPA Analyses to the Application Permit to Drill Stage.

On a similar note, throughout the various EAs for the lease sale, the BLM attempts to further segment its analysis by claiming that it will conduct site-specific NEPA analyses at the Application Permit to Drill ("APD") stage. *See, e.g.*, Billings EA at 9 ("A detailed site-specific analysis and mitigation of activities associated with any particular lease development would occur when a leaseholder submits an application for permit to drill (APD)."); Butte EA at 7 ("A detailed site-specific analysis and mitigation of activities associated with any particular lease development would occur when a leaseholder submits an application for permit to drill (APD)."); Hi-Line EA at 41 ("Any potential effects on water resources from the sale of lease parcels would occur at the time the leases are developed at the APD stage.").

"NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment." *US. Bureau of Land Mgmt. v. Kern*, 284 F.3d 1062, 1072 (9th Cir. 2002); see also 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information is available to public officials and citizens *before decisions are made* and before actions are taken."). This is especially the case if postponing analysis results in a piecemeal look at the impacts. See 40 C.F.R. § 1508.27 ("Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts."). Finally, as noted above, NEPA provides that the BLM must assess three types of actions: (1) connected actions, (2) cumulative actions, and (3) similar actions. 40 C.F.R. § 1508.25. Connected actions "are closely related and therefore should be discussed in the same impact statement." Actions are connected if they, among other things: [a]re interdependent parts of a larger action and depend on the larger action for their justification." *Id.*

Because drilling cannot occur without the BLM first leasing the minerals, leasing and drilling are interdependent, connected actions. Thus, the BLM must estimate the impacts of drilling these wells at the lease sale stage. Furthermore, NEPA requires that agencies prepare an EIS before there is "any irreversible and irretrievable commitment of resources." *Conner v. Burford*, 848 F.2d 1441, 1452 (9th Cir. 1988). The Ninth Circuit has held that issuing leases without a no surface occupancy ("NSO") stipulation conveys

a right to develop and is thus considered an irretrievable commitment of resources. *Id.* ("[U]nless surface-disturbing activities may be absolutely precluded, the government must complete an EIS before it makes an irretrievable commitment of resources by selling non-NSO leases."). None of the parcels at issue have a NSO stipulation for the entire parcel. This means that the leases are irretrievable commitments of resources, and once BLM reaches the APD stage, the agency cannot include additional lease stipulations to stop drilling and other cumulative impacts. Thus, further analysis at the APD stage would be in many cases, too little, too late, and the agency must complete a full NEPA analysis at the lease sale stage.

In response to this argument, BLM argues that because it is tiering to the broader RMP/FEISs for the relevant field offices and that "it is unknown whether or not a particular parcel will be sold and a lease issued and what potential impacts to those resources may occur," reliance on an analysis at the APD stage is reasonable. *Billings EA*, App'x G at 5; *see also Butte EA*, App'x D at 4-5; *Hi-Line EA*, App'x F at 3, 6 ("Analyzing on-the-ground impacts is outside the scope of the leasing EA"). But, as noted above, the Ninth Circuit has directly rejected the first argument regarding the RMP analysis in its decision in *Blue Mountains Biodiversity Project*. 161 F.3d at 1214 ("Nothing in the tiering regulations suggests that the existence of a programmatic EIS for a forest plan obviates the need for any future project-specific EIS, without regard to the nature of magnitude of a project."). The court has resoundingly rejected the second argument as well. *See Conner*, 848 F.2d at 1450.

Appellants also complain that the uncertain and speculative nature of oil exploration makes preparation of an EIS untenable until lessees present precise, site-specific proposals for development. The government's inability to fully ascertain the precise extent of the effects of mineral leasing in a national forest is not, however, a justification for failing to estimate what those effects might be before irrevocably committing to the activity. *Cf. EDF v. Andrus*, 596 F.2d at 851 (uncertainty about environmental impact of use of water diverted pursuant to option contract "does not obviate the importance of the decision to divert and the necessity to evaluate the environmental consequences of that decision"). Appellants' suggestion that we approve now and ask questions later is precisely the type of environmentally blind decision-making NEPA was designed to avoid. *Id.* at 1450-51 (emphasis added).

Finally, the need to do a full NEPA at the lease sale stage is further supported by the fact that the BLM consistently approves APDs without further NEPA analysis. For example, on September 27, 2017, the Billings FO approved an APD for an oil well and pipeline through a categorical exclusion. Exhibit 1 to Conservation Groups' Oct. 30, 2017 comments, *Vanguard EBET2-390 APD, DOI-BLM-MT-A0J0-2GI 7 0058CX*, BLM, [https://eplanning.blm.gov/epl-frontoffice/projects/nepa/90806/122881/149937/DOI-BLM-MT-AO-10-2017-0058-CX without signature page.pdf](https://eplanning.blm.gov/epl-frontoffice/projects/nepa/90806/122881/149937/DOI-BLM-MT-AO-10-2017-0058-CX%20without%20signature.pdf). Other BLM field offices frequently use categorical exclusions as well, and use of these is very likely to increase under the current administration.

In sum, unless the BLM actually commits, through the imposition of a lease stipulation or stipulations, to conduct additional NEPA analysis at the drilling stage, it more often than not does not happen. This means that any commitment to address the impacts development of the proposed leases through subsequent NEPA is, at best, hollow, and at worst, a deliberate attempt to avoid accountability to addressing potentially significant, connected environmental impacts under NEPA.

BLM Response:

BLM is tiering to and incorporating by reference all impacts from the BFO, BiFO, and HiLine RMPs and associated Final EISs. BLM completed an EA because the analysis can support a FONSI; therefore there was no need for an EIS. In addition, surface disturbance is not part of the proposed action. At the time of this review it is unknown whether or not a particular parcel will be sold and a lease issued and what potential impacts to those resources may occur. The EAs use reasonable foreseeable development scenarios based on the RMP to estimate potential effects.

A detailed site-specific analysis and mitigation of activities associated with any particular lease would occur when a lease holder submits an APD. This could include re-evaluating the area for protected species and habitat, additional conditions of approval (COAs), Required Design Features (RDFs, and Best Management Practices (BMPs), and involvement of external entities (e.g. USFWS), as necessary, based on the proposed action. The level of NEPA completed for future APDs (CX, DNA, EA, or EIS) would be based on site-specific considerations and the significance of effects.

At the leasing stage, site-specific drill locations are unknown. The BLM reviews proposed parcels and identifies stipulations based on what is known about the parcels such as presence of streams, wetlands, steep slopes, known nest sites, or designated habitat. These stipulations are essentially incorporated as design criteria in any future proposal. These stipulations were developed during the last RMP revision. Site-specific NEPA analysis cannot occur until there is an APD.

C. The BLM Fails to Analyze and Assess a Reasonable Range of Alternatives.

The BLM also fails to analyze and assess a reasonably range of alternatives to ensure that leasing and development are not speculative. "The EA, while typically a more concise analysis than an EIS, must still evaluate the need for the proposal, alternatives as required by NEPA section 102(2)(E), and the environmental impacts of the proposed action and alternatives." *See High Country Conservation Advocates v. US Forest Serv.*, 52 F.Supp. 3d 1174 (D. Colo. 2014); see also 42 U.S.C. § 4332(E) (requiring agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources").

Here, because BLM admits through its Reasonably Foreseeable Development scenarios for the lease parcels that many of the proposed lease parcels may never see development, it appears the proposed leasing would simply be a major giveaway to the oil and gas industry. As it stands, of the 2,101,573 million acres of federal oil and gas under lease in Montana, only 710,617 acres are in production. Put another way, only a little more than 34% of all leased federal oil and gas acres in Montana are actually producing oil and gas. This raises serious questions over whether the proposed oil and gas leasing would simply allow industry to hoard more leases to strengthen their balance sheet while generating minimal, if not negative, revenue to the American public. With companies allowed to bid as low \$2.00 per acre for oil and gas leases and to pay only a nominal rental of \$1.50 per acre per year, it would seem that industry is poised to secure leases for rock bottom prices and use these leases to inflate their assets. All the while, taxpayers will have to pay the cost of BLM administration of the leases, any inspections and enforcement, and lose the opportunity for these public lands to be dedicated to higher and better uses.

While we object to the BLM's proposal to lease, given the situation, we at least request the agency give detailed consideration to alternatives that address the likelihood that industry is only seeking the proposed leases in order to stockpile reserves and not actually produce oil and gas. We request the BLM give detailed consideration to the following alternative actions:

An alternative that imposes a minimum bonus bid higher than \$2.00 per acre. Under 43 C.F.R. § 3120.1-2(c), BLM is prohibited from accepting a competitive oil and gas leasing bid that is less than \$2.00 per acre. However, there is nothing that prohibits the BLM from establishing a minimum bid that is higher than \$2.00 per acre. Here, we request the agency give detailed consideration to an alternative that requires a minimum bonus bid higher than \$2.00 per acre as a condition of selling the lease parcels. This will ensure that only serious industry interest in the proposed oil and gas leasing parcels and help to prevent companies from stockpiling federal oil and gas leases as a means to increase their assets and enhance their own financial bottomline.

An alternative that defers offering the proposed lease parcels for sale until at least 50% of all leased federal oil and gas acres in Montana are put into production. This could happen as a result of leases expiring before being put into production, by industry relinquishing leases that have not produced for many years, or by leases being put into production by companies. This alternative would help to incentivize industry to start producing and generating revenue or to give up their ownership of federal oil and gas leases. This alternative would be a reasonable measure for the BLM to impose as a means for protecting the public interest and maximizing revenue for the American public where leases have already been issued.

In response to this argument, the BLM argues that the proposed alternatives are outside to scope of its analysis and that the RMP/FEIS for each field office designates which lands are available for leasing. *See, e.g., Billings EA, App'x G at 6-7.* But, the Mineral Leasing

Act makes clear that the BLM, through the Secretary of Interior, has a duty to ensure the best return for the Federal taxpayer. *See* 30 U.S.C. § 226. Further, NEPA mandates that the BLM conduct site-specific, project-level analyses and that the agency consider a reasonable range of alternatives. 40 C.F.R. § 1502.14. Simply because the RMP designates certain lands as available for lease, does not mean that the BLM has to lease these lands without further thought or consideration of conditions and alternatives when a site-specific project is proposed.

In sum, because the BLM's proposed lease parcels are speculative, risky proposals, the BLM must ensure that the American public is fairly compensated for the costs of the lease sale and development by including alternatives with fiscal safeguards.

BLM Response:

The leasing EAs tier to their respective ARMPs and associated Final Environmental Impact Statements (FEISs). The FEISs for the ARMPs identify areas of low, moderate, or high development potential, and the ARMP made management decisions for areas open or closed to leasing. The ARMPs also allow development of oil and gas resources and put suitable constraints on these development activities. There are large portions of the RMP areas that have major constraints on activities (e.g., exclusion areas for wind or other rights-of-ways, no surface occupancy for oil and gas, etc.). The RMPs were developed under the FLMPA and NEPA requirements and follows multiple use and sustained yield requirements. The leasing EAs analyzed and attached all the appropriate stipulations to allow both development of minerals and protection of resources.

BLM analyzed all parcels in the EAs to determine what stipulations from the RMPs needed to be applied and if those stipulations are still adequate. The 2009 BFO RMP and 2015 BiFO and HiLine RMPs are recent RMP and a robust analysis was done on the stipulations and management actions for GRSG and all resources, using an up-to-date Reasonably Foreseeable Development Scenario. Priority Habitat Management Areas have a no-surface occupancy (NSO) stipulation for GRSG, and General Habitat Management Areas are a combination of NSO and controlled surface use (CSU); therefore, providing high levels of protection for the species. The BiFO and NCMD field offices followed the prioritization requirement of the RMP, deferring these parcels for several sales since the RMP was signed (while other parcels in the field office were leased instead). Since these parcels have stringent resource protections for all resources (NSO, CSU), and they followed the prioritization process, there was no need to analyze an alternative excluding such parcels (i.e., no environmental impact issues dictating a need to look at an alternative with fewer parcels).

D. The BLM Fails to Analyze the Impacts of Hydraulic Fracturing and Horizontal Drilling.

Although the Conservation Groups appreciate the fact that the BLM has added in additional information regarding the *process* of hydraulic fracturing ("fracking"), the

BLM still fails to fully analyze the *impacts* fracking in the lease sale EAs or the underlying RMPs/FEISs.

As the BLM acknowledges, fracking coupled with horizontal drilling is now used in the majority of new oil and gas wells in the U.S. As of 2015, 67% of the U.S.'s natural gas and 50% of the U.S.'s oil came from wells that used fracking. U.S. Energy Information Administration ("EIA"), *Hydraulically Fractured Wells Provide Two-Thirds of U.S. Natural Gas Production* (2015), <https://www.eia.gov/todayinenergy/detail.php?id=26112>; EIA, *Hydraulic Fracturing Accounts for About Half of Current U.S. Crude Oil Production* (2015), <https://www.eia.gov/todayinenergy/detail.php?id=25372>. A number of shale oil and gas plays exist in Montana, and some of the lease parcels are located near these plays. Indeed, the revised Billings EA includes a map that (although small) indicates that wells near the lease parcels have been drilled and fracked.

With an increase in fracking and horizontal drilling comes increased impacts to air, climate, water, and land. For example, according to the EPA, between 2002 and 2006, oil and gas "[p]roduction emissions [for VOCs, NO_x, CO, SO₂, and PM₁₀] in Montana increased by almost 75 percent," and this trend is likely to continue. *See* EPA Region 8, *An Assessment of the Environmental Implications of Oil and Gas Production: A Regional Case Study* at 3-6 (2008), <https://archive.epa.gov/sectors/web/pdf/oil-gas-report.pdf>. Fracking has also consumed 450 million gallons of water in Montana from 2015 to 2012. Env't America, *Fracking by the Numbers: Key Impacts of Dirty Drilling at the State and National Level* 21 (2013), https://environmentamerica.org/sites/environment/files/reports/EA_FrackingNumbers_scm.pdf.

Unfortunately, the BLM fails to analyze these increased impacts in either the EAs for the lease sales or the RMP/FEISs for the field offices. As noted above, all of the EAs for the three field offices tier to broader RMPs and Final EISs. Out of the three RMPs and FEISs referenced above, only the Hi-Line RMP/FEIS comes close to fully analyzing the impacts of fracking coupled with directional drilling. The Billings RMP/FEIS, summarily dismisses the possibility of fracking in its response to comments. *See, e.g.*, Billings RMP/FEIS, Vol. 3, Ch. 5, at 5-87 ("There is no fracking currently occurring in the Billings Field Office and it is unlikely to occur.") Although the Billings RMP/EIS includes a description of the process of fracking, it fails to include an analysis of the impacts of fracking and horizontal drilling. *See* Billings RMP/FEIS Vol. 1, Ch. 3, at 3-188 to 3-190; *see generally* Chapter 4: Environmental Impacts. This is in spite of evidence that fracking and horizontal drilling has occurred and will likely continue to be used in Carbon County. For example, in July 2016, the Billings Gazette reported that the Carbon County Commissioners had passed setbacks as a result of plans by Energy Corp. of American to "bring the Bakken to the Beartooths." Tom Lutey, *Carbon County Requires Distance Between Oil Wells, Homes*, Billings Gazette, July 18, 2016, <http://billingsgazette.com/news/local/government-and-politics/carbon-county-requires-distance-between-oil-wells-homes/article2f383c56-1392-566d-989f-a4bf539ada83.html>.

The Billings FO even acknowledges that "forecast drilling activity would be somewhat higher than the levels of the past 20 years [due to new oil and gas plays]," Billings EA at 16.

The Butte RMP/FEIS is even more devoid of any discussion of impacts from fracking and horizontal drilling. Wells that use hydraulic fracturing and horizontal drilling to stimulate production have been drilled into the Cody Shale formation in the Park County area. *See* Exhibit 2 to Conservation Groups' Oct. 30, 2017 Comments, Well File for Leviathan (Arthun) 3-6, Bill Barrett Corporation, API-067-21010, available from the Mont. Board of Oil and Gas Online Oil and Gas Info. Sys.; *see also* Linda Halstead-Acharya, *Energy Speculation in Sweet Grass County Stirs Up Big Dreams, Big Questions*, Billings Gazette, Dec. 29, 2008, <http://billingsgazette.com/news/state-and-regional/montana/energy-speculation-in-sweet-grass-county-stirs-up-big-dreams/article485eb01a-0755-5032-8e7f-133d4f91f8ca.html>. And, if the price of oil increases, more drilling is likely to occur. But, the Butte RMP/FEIS completely omits any mention of fracking.

The BLM's EAs for the March sale fail to remedy this problem. As noted above, although The BLM includes a new section titled "Oil and Gas Development, including Hydraulic Fracturing" in the Billings EA at 19-24 and the Butte EA at 15-19, this information is simply a recitation of the process of fracking. For example, the BLM includes information on when racking became widespread, the total number of wells fracked nationwide and in Montana, how wells are fracked, what chemicals are used, and the average water quantity used. Although these latter two issues come closer to constituting a discussion of the impacts of fracking, the EAs still fall short. The BLM does not include any information about the amount of wastewater generated by fracking, the acreage of land that will be disturbed for wastewater and drilling mud impoundments, the increase in truck traffic associated with fracking, the impacts on roads, the socioeconomic impacts on small towns from the influx of oil and gas workers, the air pollutants released from deeper wells, the increase in greenhouse gas emissions such as methane, the impacts to human health, and the impacts to wildlife to name a few. Numerous studies document these impacts. *See, e.g.,* Concerned Health Professionals of New York, *Compendium of Scientific, Medical, And Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction)* (4th ed. 2016), <http://concernedhealthny.org/wp-content/uploads/2016/12/COMPENDIUM-4.0 FINAL 11 16 16Corrected.pdf>; *see also* Env't America, *Fracking by the Numbers: Key Impacts of Dirty Drilling at the State and National Level* 21 (2013), https://environmentamerica.org/sites/environment/files/reports/EA_FrackingNumbers_scrn.pdf. Further, the Government Accountability Office and the Environmental Protection Agency have issued studies regarding the impacts of fracking. *See* GAO, *Information on Shale Resources, Development, and Environmental and Public Health Risks* (Oct. 2012),

<https://www.gao.gov/products/GA0-12-732>; EPA, Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources (Dec. 2016), <https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990>. The BLM cannot ignore this readily available information and claim that its duties under NEPA for the March 2018 lease sale are complete.

In sum, none of the RMPs/FEIS or EAs for the lease parcels, come close to fully addressing the impacts of fracking and horizontal drilling despite evidence that such techniques have been used and will be used in the future. As a result, the BLM's three EAs and FONSI for the lease sale cannot stand, and the agency must remove all of the lease parcels from consideration.

BLM Response:

Analysis of the potential impacts of hydraulic fracturing and horizontal drilling was included in Chapter 3 of the leasing EAs. Sections 3.3 of the BFO, BiFO and NCMD EAs are titled "Oil and Gas Development, including Hydraulic Fracturing," and include a discussion of Hydraulic Fracturing.

The impacts of hydraulic fracturing were analyzed in the FEIS for the HiLine RMP, and the EA tiers to that analysis. As neither the Billings nor Butte RMP FEIS contains a robust analysis on the effects of hydraulic fracturing, this analysis was added to the leasing EAs for these two field offices. Refer to Sections 3.3 and 3.8.

The EAs (Billings, Butte) and RMP FEIS (HiLine) discuss potential threats to water quality/quantity from fracking and discuss how compliance with state and federal regulations sufficient evidence and analysis to support a finding of no significant impact (40 CFR §1508.9).

Section 3.8 of the BFO EA, and Section 3.7 of the BiFO and NCMD EAs discuss requirements to mitigate any potential adverse impacts from hydraulic fracturing.

In addition to federal regulations, the State of Montana's Board of Oil and Gas Conservation (MBOGC) have regulations, which ensure that all resources including groundwater are protected. The MBOGC regulations require new and existing wells, which will be stimulated by hydraulic fracturing, to demonstrate suitable and safe mechanical configuration for the stimulation treatment proposed. If the operator proposes hydraulic fracturing through production casing or through intermediate casing, the casing must be tested to the maximum anticipated treating pressure. All surface casing and some deeper, intermediate zones are required to be cemented from the bottom of the cased hole to the surface in accordance with Onshore Oil and Gas Order No. 2, MBOGC rules and regulations, and American Petroleum Institute (API) standards. The cemented well is pressure tested to ensure there are no leaks and a cement bond log is run to ensure the cement has bonded to the casing and the formation. In accordance with MBOGC Rule 36.22.1015, operators are required to disclose and report the amount and type of fluids

used in well stimulation to the Board or, if approved by the Board, to the Interstate Oil and Gas Compact Commission/Groundwater Protection Council hydraulic fracturing web site (FracFocus.org). BiFO EA at 50-51. BFO EA at 42-43.

The NCMD leasing EA also discusses measures to mitigate any potential adverse impacts from hydraulic fracturing.

The Gold Book, Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (BLM and USFS 2007) would be followed. Guidance in the hydraulic fracturing rule published as final on March 26, 2015 (80 Fed. Reg. 16128) would also be applied, as appropriate. The Montana Board of Oil and Gas Conservation (MBOGC) has primary regulatory jurisdiction over the Underground Injection Control (UIC) Program for Class II injection or disposal wells and will work with all relevant parties to protect underground sources of drinking water. NCMD EA at 38.

The BiFO EA makes the following statement on measures to mitigate potential adverse impacts from oil and gas operations.

Oil and gas operations must attempt to uphold water resource integrity through conduct that minimizes adverse effects to surface and subsurface resources, prevents unnecessary surface disturbance, and conforms with currently available technology and practice. Oil and gas operators cannot commence either drilling operations or preliminary construction activities before the BLM's approval of the Application for Permit to Drill (APD). A copy of the approved APD and any Conditions of Approval must be available for review at the drill site and all operators, contractors, and subcontractors must comply with the requirements of the approved APD and/or Surface Use Plan of Operations. Unless it is otherwise provided in an approved Surface Use Plan of Operations, the operator must not conduct operations in riparian areas, floodplains, playas, lakeshores, wetlands, and/or areas subject to severe erosion and mass soil movement. BiFO EA at 23.

The BiFO EA includes a discussion on the potential impacts of hydraulic fracturing on water quality and quantity. Refer to Section 3.3 and 3.8 of the BiFO EA. Prior to approving an APD, the BLM identifies all potential subsurface formations that would be penetrated by the wellbore. The Gold Book, Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (BLM and USFS 2007), would be followed, and site-specific mitigation measures, BMPs, and reclamation standards would be implemented and monitored in order to minimize effects to water resources. All proposed actions must comply with local, state, and federal regulations, including Montana water laws. Compliance with state regulations would help mitigate the impacts of water withdrawals on surface and groundwater by ensuring that water rights are established for all beneficial uses of water, ensuring that water resources are not over-appropriated, and considering the impacts of water withdrawals to groundwater wells and hydraulically connected surface waters. The State of Montana's Board of Oil and Gas Conservation (MBOGC) regulations require new and existing wells, which will be stimulated by hydraulic fracturing, to demonstrate suitable and safe mechanical configuration for the

stimulation treatment proposed. If the operator proposes hydraulic fracturing through production casing or through intermediate casing, the casing must be tested to the maximum anticipated treating pressure. All surface casing and some deeper, intermediate zones are required to be cemented from the bottom of the cased hole to the surface in accordance with Onshore Oil and Gas Order No. 2, MBOGC rules and regulations, and American Petroleum Institute (API) standards.

Analysis of potential impacts to water resources (at the APD stage) from future fluid mineral development was included in the BiFO EA (Sections 3.3 and 3.8).

Oil and Gas drilling operations could impact available quantities of surface water and groundwater. The potential for impacts depends on the combination of water withdrawals and water availability at a given withdrawal location. Where water withdrawals are relatively low compared to water availability, adverse impacts are unlikely to occur. Where water withdrawals are relatively high compared to water availability, impacts are more likely. BiFO EA at 47-48.

Compliance with state regulations would help mitigate the impacts of water withdrawals on surface and groundwater by ensuring that water rights are established for all beneficial uses of water, ensuring that water resources are not over-appropriated, and considering the impacts of water withdrawals to groundwater wells and hydraulically connected surface waters.

The regulations at 43 § C.F.R. 3162.5-1(b) state “The operator shall exercise due care and diligence to assure that leasehold operations do not result in undue damage to surface or subsurface resources or surface improvements.” BLM Montana/Dakotas works with all federal lessees and their operators to ensure they comply with the lease terms, and with current federal regulations and policy regarding oil and gas operations.

As required by Onshore Oil and Gas Order 1. III. D. 3. (b), when submitting an Application for Permit to Drill (APD) to the BLM the operator must include in the drilling plan “estimated depth and thickness of formations, members, or zones potentially containing usable water, oil, gas, or prospectively valuable deposits of other minerals that the operator expects to encounter, and the operator’s plans for protecting such resources.” It is up to the BLM Petroleum Engineer and/or the Geologist to analyze the information submitted to determine if the operator’s plan to protect usable water is adequate. Approval of operator-submitted casing setting depths takes into consideration relevant factors such as, “presence/absence of hydrocarbons; fracture gradients; usable water zones; formation pressures; lost circulation zones; other minerals; or other unusual characteristics. All indications of usable water shall be reported.” (OO2. III. B.) The surface casing is the only casing string with the requirement to cement to the surface. BLM considers the water zone in these wells to be protected by the surface casing and shale in which it is set and the top of cement and shale below the water zone.

E. The BLM’s Reasonably Foreseeable Development Scenarios for the Billings, Butte, and Hi-Line Parcels Are Not Accurate.

The BLM must also analyze the reasonably foreseeable development of the lease parcels in context with current, on-the-ground information. *See High Country Conservation Advocates v. US Forest Serv.*, 52 F.Supp. 3d 1174 (D. Colo. 2014) ("The EA, while typically a more concise analysis than an EIS, must still evaluate the need for the proposal, alternatives as required by NEPA section 102(2)(E), and the environmental impacts of the proposed action and alternatives."). While we appreciate BLM's attempts to calculate the reasonably foreseeable development scenario for the proposed lease parcels, the agency's numbers appear grossly underestimated and completely unrealistic.

For example, for the Billings FO parcels, the BLM estimates that out of 76 parcels, only 5.4 wells per year (54 wells for the IO-year lease timeframe) will be developed. *See Billings FO EA* at 16. BLM's assessment of reasonably foreseeable oil and gas wells is based on an overly simplistic assessment of the percentage of lease acreage within the total acreage of a "potential" development area. This is a bizarre method for assessing reasonably foreseeable wells. Given that the point of leasing is to accommodate industry demands to develop oil and gas wells, it is astonishing that the BLM would project such a small amount of development resulting from the proposed leases. This raises serious questions over whether the BLM should actually be offering most of the lease parcels for sale in the first place.

A more logical approach would be one similar to that taken by the Vernal Field Office in Utah. For example, for the December 2017 sale, the Vernal FO presumed that, at a minimum, one well would be developed on every lease parcel offered for sale. Exhibit 3 to Conservation Groups' Oct. 30, 2017 comments, Vernal Field Office, *December 2017 Competitive Oil and Gas Lease Sale Final Environmental Assessment*, App'x D (Sept. 1, 2017),

<https://eplanning.blm.gov/epl-front-office/projects/nepa/80165/119135/145398/FEA.pdf>.

The Vernal FO also considered whether the parcel in question was within 2 miles of a well which had produced oil or gas within the past 6 years. *Id.* This approach addresses the fact that industry has nominated the lease parcels and thus, the likelihood of development is higher. This approach also takes into account existing production and ensures that the agency's development assumptions are current based on nearby wells. Neither of these assumptions are incorporated into the BLM's approach for this lease sale. Thus, the BLM's development assumptions are misleading and likely inaccurate, and the EAs are insufficient and fail to demonstrate that the FONSI's are appropriate.

The BLM responds to this argument with statewide and field office-wide drilling statistics from 2007-2016. *See Billings EA*, App'x G at 8. But, there is no doubt that the size of federal lease sales has drastically increased since the Trump Administration has taken office. In addition, industry interest in Montana has increased. For example, 80% (166 out of 204 parcels) in the December 2017 lease sale in Montana sold in either the competitive or noncompetitive sale. With the inclusion of site-specific analyses comes

the opportunity to include current, on-the-ground data regarding the specific parcels, and the BLM would be wise to take this opportunity.

The BLM also argues that information from the Vernal Field Office is inapplicable because that office experiences a higher rate of development. But, what is most important about the Vernal Field Office's approach, which the BLM fails to consider, is that it takes into account whether the parcel proposed for lease is within 2 miles of a well which had produced oil or gas within the past 6 years. The Montana BLM's analysis stems from the broad overview provided by the Reasonably Foreseeable Development scenarios developed for each field office's RMPs. It does not consider site specific, on-the-ground data for the particular lease parcels - information which is needed at the lease sale stage in order to fully disclose and analyze the impacts of the proposed action.

BLM Response:

The leasing EAs are tiering to and incorporating by reference all impacts from their respective FEISs for their ARMPs. Anticipated exploration and development activities associated with the lease parcels considered in the EAs are within the range of assumptions used and effects described in the EIS. The method used to determine a potential Reasonably Foreseeable Development scenario for the lease sale is described in Section 3.2 of the leasing EAs.

The Reasonably Foreseeable Development (RFD) for this EA is based on information contained in the RFD developed for the BFO FEIS. The RFD contains the number of potential oil and gas wells that could be drilled and produced in the BFO area, and was used to analyze the potential number of wells drilled for the nominated lease parcels. These well numbers are only an estimate based on historical drilling, geologic data, resource expertise, and current development in the area. BFO EA at 11.

The Reasonably Foreseeable Development (RFD) for this EA is based on information contained in the RFD developed for the HiLine FEIS (Volume II, pages 450-453) and Appendix E.1 (Volume III, pages 1265 - 1283), and is incorporated by reference into this EA. The RFD contains the number of potential oil and gas wells that could be drilled and produced in the HiLine area, and was used to analyze the potential number of wells drilled for the nominated lease parcels. These well numbers are only an estimate based on historical drilling, geologic data, resource expertise, and current development in the area. NCMD EA at 13.

The Reasonably Foreseeable Development (RFD) for this EA is based on information contained in the RFD developed for the BiFO FEIS, and is incorporated by reference into this EA (See BiFO FEIS, Chapter 4, pages 4-422 through 4-443). The RFD contains the number of potential oil and gas wells that could be drilled and produced in the BiFO area, and was used to analyze the potential number of wells drilled for the nominated lease parcels. These well numbers are only an estimate based on historical drilling, geologic data, resource expertise, and current development in the area. BiFO EA at 15.

It would be inaccurate to assume that one well would be developed on every lease parcel offered for sale. In the last 10 years (2007-2016), the BLM has offered 1,765 competitive oil and gas leases for sale in Montana. Of the 1,765 leases offered, 1,027 leases sold (58%). During the same time period, the BLM approved 576 Applications for a Permit to Drill (APD) (56% of the leases sold). Another way to look at it – of all the leases offered for sale in the last 10 years, only one-third of them have approved APDs. Source: Public Land Statistics, US Department of the Interior, BLM. A RFD that assumes one well per parcel would over-estimate the development potential across Montana. In the last 10 years, Butte has not approved any APDs. The RFD scenario for Butte, which assumes 3 wells would be drilled is most likely an over estimate of drilling potential.

To assume a minimum of one well to be drilled on every lease parcel within the Butte boundary, as the Vernal FO did, would overestimate the drilling activity in the Butte region. The Vernal FO historically receives the third most APDs compared to all other BLM field offices (approximately 42 BLM oil and gas field offices, Miles City 18th, and Great Falls 25th)." These numbers are from a WO report on APDs for FY15. Since the Billings and Butte FOs are not O&G offices they are not included on this list, however, Butte would be at the bottom if it has not approved any APDs in the last 10 years.

F. The BLM Fails to Assess the Direct and Indirect Impacts of Air and Greenhouse Gas Emissions that Would Result from Issuing the Proposed Lease Sale Parcels.

The BLM also fails to assess the direct and indirect impacts from air and greenhouse gas emissions that would result from issuing the proposed lease sale parcels. First, the BLM fails to actually calculate site-specific air emissions that will occur from construction and development of the proposed lease parcels. Second, although the BLM calculates downstream greenhouse gas emissions from combustion of any produced oil and gas, the BLM fails to assess the greenhouse gas emissions that will result from construction and production of the proposed leases. *See, e.g.,* Billings FO EA at 36-37; Butte FO EA at 31-32; Hi-Line EA at 31-32.

In response to a similar comment by Northern Plains Resource Council, the BLM claims that it "is not able to predict actual local impacts from the projected level of GHG emissions associated with the proposed lease sale." Billings EA, App'x G at 17; *see also* Butte EA, App'x D at 13; Hi-Line EA (same), App'x F at 11 (same).

Estimating direct greenhouse gas emissions from leasing is entirely possible and has been done by the BLM in the past. For example, in the Royal Gorge Field Office of Colorado, the BLM contracted with URS Group Inc. to prepare an analysis of air emissions from the development of seven oil and gas lease parcels. *See* Exhibit 4 to Conservation Groups' Oct. 30, 2017 Comments, URS Group Inc., "Draft Oil and Gas Air Emissions Inventory Report for Seven Lease Parcels in the BLM Royal Gorge Field Office," Prepared for BLM, Colorado State Office and Royal Gorge Field Office (July 2013). This report

estimated greenhouse gas emissions on a per well basis. *See* Exhibit 4 at 3, 5. This report was later supplanted by the Colorado Air Resource Management Modeling Study, or CARMMS, which estimated reasonably foreseeable emissions of greenhouse gases, criteria pollutants, and hazardous air pollutants associated with oil and gas development throughout Colorado, as well as part of New Mexico, and modeled air quality impacts. *See* Exhibit 5 to Conservation Groups' Oct. 30, 2017 Comments, ENVIRON, "Colorado Air Resource Management Modeling Study (CARMMS) 2021 Modeling Results for the High, Low and Medium Oil and Gas Development Scenarios," Prepared for BLM Colorado State Office (January 2015) (updated report available at https://www.blm.gov/sites/blm.gov/files/program_natural%20resources_soil%20air%20water_airco_quick%20link_CARMMS.pdt). As part of the CARMMS report, the BLM estimated annual per well emissions, including greenhouse gas emissions, as follows.

It is notable that, based on this estimate, total CO₂ emissions associated with construction and production of conventional (rather than "CBM" or coalbed methane) wells, could be as much as 360 tons per year. And, to top it off, this number would very likely increase for an unconventional oil or gas well, as shown by the Kleinfelder Report, which estimates emissions for representative oil and gas wells in the Uinta, Upper Green River, San Juan, Williston, and Denver Basins. *See* Exhibit 6 to Conservation Groups' Oct. 30, 2017 Comments, Kleinfelder, "Air Emissions Inventory Estimates for a Representative Oil and Gas Well in the Western United States," Report Prepared for Bureau of Land Management (March 25, 2013). Either way, the BLM has the capability to analyze these emissions and cannot forgo this analysis at the lease sale stage. *See Conner v. Burford*, 848 F.2d 1441, 1450.

BLM Response:

The BLM completed a similar study as the CARMMS referred to by the commenter for the Montana Dakotas region. The *BLM Montana Dakotas State Office PGM Modeling Study* (Sept. 2016) analyzed potential impacts from reasonably foreseeable oil and gas development within Montana, and parts of North and South Dakota. The analysis included estimates of criteria air pollutants, hazardous air pollutants, and greenhouse gas emissions as well as evaluated potential impacts to air quality, visibility, and aquatic deposition. In addition, the three leasing EAs include analysis of potential impacts to air resources and make the following statements.

The direct, indirect, and cumulative impacts from oil and gas development on air resources are analyzed in Chapter 4 of the HiLine RMP and Final EIS (BLM, 2015) and are incorporated by reference into this EA. The RFD for this alternative, Chapter 3.2, would be in conformance with the emission impacts described in the referenced document. This analysis included discussion of short term and long term impacts. Application of CSU 12-23 and LN 14-18 would provide for conservation of air resources. NCMD EA at 29.

The direct, indirect, and cumulative impacts from oil and gas development on air resources are analyzed in Chapter 4 of the BiFO Final EIS (BLM, 2015) and are incorporated by reference into this EA. The RFD for this alternative, Section 3.2, would be in conformance with the emission impacts described in the referenced document. This analysis included discussion of short term and long term impacts. Application of CSU 12-23 and LN 14-18 would provide for conservation of air resources. BiFO EA at 35.

The BiFO RMP Final EIS (BLM, 2015) includes Appendix T Adaptive Management Strategy for Oil and Gas Resources, which identifies strategies for assessing and mitigating potential impacts to air quality from oil and gas development. Specific measures from this appendix would apply to the proposed parcels in this leasing action for the protection of air resources: BiFO EA at 36.

- The application of CSU 12-23 which requires drill rig engines greater than 200 horsepower to comply with Tier IV emission standards for non-road diesel engines,
- The application LN 14-18 notifying leaseholders that additional air quality analysis may be required at the discretion of the BLM,
- Natural gas fired or electric compressors or generators would be required within the Powder River Basin
- Operators of coal bed natural gas (CBNG) operations located within 5 miles of the Northern Cheyenne Indian Reservation would be required to perform additional air analysis maybe required to restrict the timing or location of CBNG development.

The direct, indirect, and cumulative impacts from on air resources from BLM authorized activities are discussed in the Proposed Butte Resource Management Plan and Final Environmental Impact Statement, September 2008 (BLM, 2008) and are incorporated by reference into this EA. The Record of Decision and Approved Butte Resource Management Plan (BLM, 2009) includes specific management actions for the protection of air resources including:

- Management will minimize or prevent air quality degradation throughout the planning Area by applying mitigation measure to projects.
- Air resources will continue to be evaluated on a case-by-case basis as part of project level planning to ensure compliance with local, state, and federal regulatory requirements. Evaluations will consider the significance of the proposed project and the sensitivity of air resources in the affected area. Mitigation measures will be developed as appropriate to ensure compatibility of projects with air resource management.
- Before approval of an application for permit to drill (APD) for oil and gas or a Sundry Notice application that would involve surface disturbance, the appropriate level of NEPA analysis (in most cases an EA) will be completed. This document will analyze effects on

- all appropriate resources and resource uses including air quality as identified. BFO EA at 29-30.

The following lease stipulations are applied to the parcels to mitigate any potential adverse impacts to air resources.

CONTROLLED SURFACE USE 12-23- AIR RESOURCES (BiFO and NCMD)

Surface Occupancy and Use is subject to the requirement that each diesel-fueled non-road engine with greater than 200 horsepower design rating to be used during drilling or completion activities meets one of the following two criteria: (1) the engine was manufactured to meet USEPA NO_x emission standards for Tier 4 non-road diesel engines, or (2) the engine emits NO_x at rates less than or equal to USEPA emission standards for Tier 4 non-road diesel engines.

LEASE NOTICE 14-18- AIR RESOURCE ANALYSIS (BFO, BiFO and NCMD)

The lessee/operator is given notice that prior to project-specific approval, additional air resource analyses may be required in order to comply with the NEPA, FLPMA, and/or other applicable laws and regulations. Analyses may include equipment and operations information, emission inventory development, dispersion modeling or photochemical grid modeling for air quality and/or air quality related value impact analysis, and/or emission control determinations. These analyses may result in the imposition of additional project-specific control measures to protect air resources.

G. The BLM Fails to Fully Analyze and Assess Cumulative Impacts Generally, including the Cumulative Impacts from Greenhouse Gas Emissions that Would Result from Issuing the Proposed Lease Parcels.

Similarly, the BLM's analyses in all three EAs fail to account for cumulative impacts, including cumulative impacts from greenhouse gas emissions from cumulative and similar actions. More specifically, The BLM fails to take into account the greenhouse gas emissions resulting from other proposed BLM lease sales in Montana, North Dakota, and surrounding Western states.

NEPA requires an agency to analyze the impacts of "similar" and "cumulative" actions in the same NEPA document in order to adequately disclose impacts in an EIS or provide sufficient justification for a FONSI in an EA. *See* 40 C.F.R. §§ 1508.25(a)(2) and (3). Indeed, the Ninth Circuit has held that "[a]n EA's analysis of cumulative impacts 'must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment.'" *Te-Moak Tribe v. U.S. Dep't of Interior*, 608

F.3d 592,603 (2010) (*quoting Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005)).

Here, the BLM's analysis is entirely devoid of any consideration of the cumulative impacts from greenhouse gas emissions from oil and gas development and lease sales within Montana or North Dakota, as well as throughout the Rocky Mountain West. Yet, it is notable that at the same time and in this same region, the BLM has sold, is selling, and will be selling thousands of acres of oil and gas leases, including:

In Montana/North Dakota, in June 2017 the BLM leased 49 parcels (15,611.47 acres). See <https://www.blm.gov/sites/blm.gov/files/MTDAKs%206-13-17%20Comp%20Results.pdf>. In September, the BLM sold 15 parcels totaling 4,438.07 acres in South and North Dakota, see [https://www.blm.gov/sites/blm.gov/files/MTDAKs%2009-12-17-07-11-17-Comp%20Stats Combined.pdf](https://www.blm.gov/sites/blm.gov/files/MTDAKs%2009-12-17-07-11-17-Comp%20Stats%20Combined.pdf). And, in December, the BLM sold 166 parcels (totaling 98,865 acres) in southeastern Montana, <https://eplanning.blm.gov/epl-front-office/projects/nepa/78400/128308/156156/12-12-17-Comp-Results.pdf>; <https://eplanning.blm.gov/epl-front-office/projects/nepa/78400/128309/156157/12-2-17-Noncomp-Results.pdf>. The BLM is planning to sell 217 parcels in the June 2018 sale (104,071.00 acres) in southeastern Montana, <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=139120>.

Colorado: On March 9, 2017, the BLM sold 17 parcels covering 16,447.180 acres. See <https://eplanning.blm.gov/epl-front-office/projects/nepa/70207/99188/120209/Sale-Results-March2017.pdf>. On June 8, 2017, the BLM sold 70 parcels covering 63,268.120 acres in western Colorado. See <https://eplanning.blm.gov/epl-front-office/projects/nepa/70241/109218/133789/Sale-Results-June2017.pdf>. In December of 2017, the BLM sold 23 parcels covering 22,073.110 acres in western Colorado. See <https://eplanning.blm.gov/epl-front-office/projects/nepa/72396/126871/154522/Sale-Results-December-2017.pdf>. In March 2018, the BLM is planning to sell 8 parcels totaling 2,545.13 acres, <https://eplanning.blm.gov/epl-front-office/projects/nepa/80672/126974/154621/Sale-Notice-March2018.pdf>, and 64 parcels (58,893.95 acres) in June 2018, <https://eplanning.blm.gov/epl-front-office/projects/nepa/89119/119327/145632/Initial-Parcel-List-Scoping-June2018.pdf>.

Wyoming: In June 2017, the sold 26 parcels covering 31,924.77 acres in the High Desert District Office. See <https://eplanning.blm.gov/epl-front-office/projects/nepa/65707/110941/135810/SALERESULTS.pdf>. In September 2017, BLM sold 127 parcels totaling 106,687 acres. See <https://eplanning.blm.gov/epl-front-office/projects/nepa/65707/121307/148154/SALE-RESULTS-3rd-Order-2017.v3.pdf>. This December, the agency sold 41 parcels (68,818.92 acres). See <https://eplanning.blm.gov/epl-front-office/projects/nepa/65707/121307/148154/SALE-RESULTS-3rd-Order-2017.v3.pdf>.

office/projects/nepa/65707 /128297 / 156 1 43/SALERESUL TS.pdf. In March 2018, the BLM is proposing to lease 170 parcels (170,509.65 acres) in the High Plains and Wind River-Bighorn Basin Districts, [https://eplanning.blm.gov/epl-front-office/projects/nepa/85072/125831/153379/Sale Notice.pdf](https://eplanning.blm.gov/epl-front-office/projects/nepa/85072/125831/153379/Sale%20Notice.pdf). And, in June 2018, the agency is offering 163 parcels (199,298.57 acres) in the High Desert and Wind River-Big Horn Basin Districts.

All told, the BLM has leased or is proposing to lease approximately 1,265 parcels or 1,026,947.476 acres of publically-owned land in the states listed above in 2017 and 2018. The BLM is also proposing to lease 208 parcels (191,708.13 acres) for the March 2018 sales in Colorado, Montana, and Wyoming.

The need for the BLM to analyze cumulative impacts from the proposed lease sales is further supported by a demonstration of how close many of the lease parcels proposed in differing states are. For example, the March 2018 lease parcels for the Billings FO in Montana and the Cody FO in Wyoming are actually geographically adjacent to each other as shown by the map below.

In response to this, the BLM again defers to the analyses provided by the respective RMPs and FEISs. *See, e.g.*, Billings EA, App'x G at 18. But, the Ninth Circuit has explicitly rejected this argument, explaining that "[a]n EA's analysis of cumulative impacts 'must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment.'" *Te-Moak Tribe v. U.S. Dep't of Interior*, 608 F.3d 592,603 (2010) (quoting *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005)); *see also Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989,994 (9th Cir. 2004) ("A proper consideration of the cumulative impacts of a project requires some quantified or detailed information; general statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.") (internal quotations and changes omitted). Specifically, in *Te-Moak*, the BLM had provided a list of reasonably foreseeable federal activities in the cumulative impacts area, but because the BLM "failed to include the required 'quantified or detailed information,'" the court held that the EA did not adequately address cumulative impacts. *Id.* Although it is arguable what projects are within the cumulative impacts area and reasonably foreseeable, at a minimum, the BLM should have analyzed the March 2018 lease sale in Wyoming because the parcels are directly next to parcels for the March 2018 lease in Wyoming. Instead, the BLM relies entirely on the analyses in the field office RMPs/FEISs in direct contradiction to the decision in *Klamath-Siskiyou Wildland Center* as well. 387 F.3d at 997; *see also Conner v. Burford*, 848 F.2d 1441, 1452 (9th Cir. 1988). As the court stated in *Klamath-Siskiyou Wildland Center*,

Finally, the need to take into account "similar" and "cumulative" actions is underscored by the fact that the BLM acknowledges that the proper geographic area for analyzing and assessing the impacts of greenhouse gas emissions is on a national scale. Both the Billings FO EA and Butte FO EA in fact assess the significance of downstream greenhouse gas emissions from the proposed lease sale in the context of statewide and national greenhouse gas emissions. *See, e.g.*, Billings FO EA at 37 ("According to the USEPA, this estimated quantity [of downstream GHG emissions] represents approximately 0.0001 % of total U.S. GHG emissions reported in 2015 and 0.018% of Montana GHG emissions reported in 2015."); *see also* Butte FO EA at 32 ("According to the USEPA, this estimated quantity represents approximately 0.00002% of total U.S. GHG emissions reported in 2015.").

Although this assessment was apparently prepared to try to mislead the public into believing that emissions from the proposed leasing are not significant, it actually emphasizes the need for the BLM to not simply account for emissions from the proposed leasing, but likely for all greenhouse gas emissions associated with BLM-approved oil and gas leasing nationwide. Indeed, the BLM cannot claim that emissions are insignificant in the context of state or national emissions, but then fail to disclose the direct, indirect, and cumulative greenhouse gases that would result from all other "similar" and "cumulative" actions within a statewide or national scope. The BLM's failure to discuss or acknowledge the lease sales occurring within Montana and in neighboring Rocky Mountain states is a clear violation of NEPA which renders the EAs and subsequent FONSI invalid.

BLM Response:

The BLM completed a similar study as the CARMMS referred to by the commenter for the Montana Dakotas region. The *BLM Montana Dakotas State Office PGM Modeling Study* (Sept. 2016) analyzed potential impacts from reasonably foreseeable oil and gas development within Montana, and parts of North and South Dakota. The analysis included estimates of criteria air pollutants, hazardous air pollutants, and greenhouse gas emissions as well as evaluated potential impacts to air quality, visibility, and aquatic deposition. In addition, analysis of potential impacts from Greenhouse Gas Emissions (GHG) to air quality is included in the leasing EAs. In addition, analysis of potential impacts from Greenhouse Gas Emissions (GHG) to air quality is included in the leasing EAs.

The NCMD EA makes the following statements on impacts to air quality.

Leasing the subject parcels would have no direct impacts on air quality. Any potential effects on air quality would occur if and when the leases are developed for oil and gas activities. The following paragraphs discuss the type of air emissions that could be expected from future oil and gas development as a result of the proposed lease sale including quantified estimates of potential downstream emissions of greenhouse gases (GHG) emissions and the possible relationship to climate change. NCMD EA at 29.

The direct, indirect, and cumulative impacts from oil and gas development on air resources are analyzed in Chapter 4 of the HiLine RMP and Final EIS (BLM, 2015) and are incorporated by reference into this EA. The RFD for this alternative, Chapter 3.2, would be in conformance with the emission impacts described in the referenced document. This analysis included discussion of short term and long term impacts. Application of CSU 12-23 and LN 14-18 would provide for conservation of air resources. NCMD EA at 29.

The HiLine RMP Final EIS (BLM, 2015) includes Appendix B Adaptive Management Strategy for Oil and Gas Resources, which identifies strategies for assessing and mitigating potential impacts to air quality from oil and gas development. Specific measures from this appendix would apply to the proposed parcels in this leasing action for the protection of air resources: NCMD EA at 30.

- The application of CSU 12-23 which requires drill rig engines greater than 200 horsepower to comply with Tier IV emission standards for non-road diesel engines,
- The application LN 14-18 notifying leaseholders that additional air quality analysis may be required at the discretion of the BLM,
- Additional Oil and Gas Best Management Practices included in Appendix H of the HiLine Approved Resource Management Plan, September 2015. NCMD EA at 30.

Both the 2015 HiLine and BiFO FEISs and the three Leasing EAs incorporate by reference the analysis contained in the 2010 BLM Climate Change Supplementary Information Report (SIR) for Montana, North Dakota and South Dakota. The SIR provides detailed information and quantification of anticipated greenhouse gas emissions from oil and gas leasing through 2028.

Potential emissions of air pollutants from the exploration, development, and onsite production phases associated with the RFD for these parcels (see Appendix C) have been addressed in the Butte RMP Final EIS. Table 6 on page 28 of the BFO EA shows the estimated downstream GHG emissions due to 100% combustion of product based on the potential RFD for this lease sale proposal. BLM acknowledges that the estimated increase in GHG emissions, based on projected development, may contribute to an increase in global atmospheric GHG concentration which may result in exacerbating impacts associated with global climate change. However, BLM is not able to predict actual local impacts from the projected level of increased GHG emissions associated with the proposed lease sale. Estimated emissions of GHGs based on RFD potential are used as a proxy for assessing potential climatic effects. No further analysis is required.

The application of lease notice LN 14-18 to the proposed BFO lease parcels will provide for conservation of air resources by ensuring that reduced emissions engine technology is used as the leases are developed, and by allowing BLM to conduct additional air analyses at the time of development if methodologies become available to determine local impacts of project level GHG emissions. In addition, the management actions specific to air resources contained in the Record of Decision for the BFO RMP would provide for the conservation of air resources.

Estimated emissions of air pollutants including GHG were included in the *Air Resource Technical Support Document for Emission Inventories and Near-Field Modeling* included in the RMPs. The emissions were estimated using representative parameters from typical development. However, substantial uncertainty exists at the time the BLM offers a lease for sale regarding crucial factors that affect potential GHG emissions, including well density, geological conditions, development type (vertical, directional, horizontal), hydrocarbon characteristics, equipment to be used during construction, drilling, production, and abandonment operations, and applicable regulatory requirements.

The state of Montana Department of Environmental Quality has established permitting and emissions control requirements for oil and gas sources in the Administrative Rules of Montana, Chapter 17.8 Air Quality, Subchapter 16. In addition, voluntary partnerships such as EPA's Natural Gas Star Program and the Methane Challenge Program encourage new technology that reduce methane emissions and increase efficiency.

H. The BLM Fails to Analyze the Costs of Reasonably Foreseeable Carbon Emissions Using Well-Accepted, Valid, Credible, GAO-Endorsed, Interagency Methods for Assessing Carbon Costs.

In addition to the lack of cumulative impacts analysis for greenhouse gas emissions, it is particularly disconcerting that the agency extensively discusses the economic benefits of the proposed leases, Billings FO EA at 91-92, Butte FO EA at 58-60, Hi-Line EA at 79-80, but completely omits a discussion of the social cost of carbon protocol, a valid, well-accepted, credible, and interagency-endorsed method of calculating the costs of greenhouse gas emissions and understanding the potential significance of such emissions.

The social cost of carbon protocol for assessing climate impacts is a method for "estimat[ing] the economic damages associated with a small increase in carbon dioxide (CO₂) emissions, conventionally one metric ton, in a given year and I represents the value of damages avoided for a small emission reduction (i.e. the benefit of a CO₂ reduction)." Exhibit 7 to Conservation Groups' Oct. 30, 2017 Comments, U.S. Environmental Protection Agency ("EPA"), "Fact Sheet: Social Cost of Carbon" (Nov.2013) at 1, available at <https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon.html>. The protocol was developed by a working group consisting of several federal agencies.

In 2009, an Interagency Working Group was formed to develop the protocol and issued final estimates of carbon costs in 2010. See Exhibit 8 to Conservation Groups' Oct. 30, 2017 Comments, Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (Feb. 2010), available online at https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf. These estimates were then revised in 2013 by the Interagency Working Group, which at the time consisted of 13 agencies. See Exhibit 9 to Conservation Groups' Oct. 30, 2017

Comments, Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (May 2013), available online at <https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf>. This report and the social cost of carbon estimates were again revised in 2015. See Exhibit 10 to Conservation Groups' Oct. 30, 2017 Comments, Interagency Working Group on Social Cost of Carbon, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866" (July 2015). Again, this report and social cost of carbon estimates were revised in 2016. See Exhibit 11 to Conservation Groups' Oct. 30, 2017 Comments, Interagency Working Group on Social Cost of Greenhouse Gases, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866" (Aug. 2016), available online at https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_82616.pdf.

Most recently, as an addendum to previous Technical Support Documents regarding the social cost of carbon, the Department of the Interior joined numerous other agencies in preparing estimates of the social cost of methane and other greenhouse gases. *See* Exhibit 12 to Conservation Groups' Oct. 30, 2017 Comments, Interagency Working Group on Social Cost of Greenhouse Gases, United States Government, "Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide" (Aug. 2016).

Depending on the discount rate and the year during which the carbon emissions are produced, the Interagency Working Group estimates the cost of carbon emissions, and therefore the benefits of reducing carbon emissions, to range from \$ 10 to \$212 per metric ton of carbon dioxide. *See* Chart Below. In one of its more recent update to the Social Cost of Carbon Technical Support Document, the White House's central estimate was reported to be \$36 per metric ton. Exhibit 11 at 4. In July 2014, the U.S. Government Accountability Office ("GAO") confirmed that the Interagency Working Group's estimates were based on sound procedures and methodology. *See* Exhibit 13 to Conservation Groups' Oct. 30, 2017 Comments, GAO, "Regulatory Impact Analysis, Development of Social Cost of Carbon Estimates," GAO-14-663 (July 2014), <http://www.gao.gov/assets/670/665016.pdf>.

Although often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include "an estimate of the 'social cost of carbon' associated with potential increases of GHG emissions." Exhibit 14 to Conservation Groups' Oct. 30,

2017 Comments, EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011).

More importantly, the BLM, including the neighboring Billings Field Office, has also utilized the social cost of carbon protocol in the context of oil and gas approvals. In past Environmental Assessments for oil and gas leasing in Montana, the Billings Field Office estimated "the annual SCC [social cost of carbon] associated with potential development on lease sale parcels." Exhibit 15 to Conservation Groups' Oct. 30, 2017 Comments, BLM, "Environmental Assessment for October 21, 2014 Oil and Gas Lease Sale," DOI-BLM-MT- 0010-2014-0011-EA (May 19, 2014) at 76, [https://www.blm.gov/sites/blm.gov/files/MT-DAKs%20BillingsFinal%20EA Oct 21 2014 .pdf](https://www.blm.gov/sites/blm.gov/files/MT-DAKs%20BillingsFinal%20EA%20Oct%2021%202014.pdf). In conducting its analysis, the BLM used a "3 percent average discount rate and year 2020 values," presuming social costs of carbon to be \$46 per metric ton. *Id.* Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be "\$38,499 (in 2011 dollars)." *Id.* In Idaho, the BLM also utilized the social cost of carbon protocol to analyze and assess the costs of oil and gas leasing. Using a 3% average discount rate and year 2020 values, the agency estimated the cost of carbon to be \$51 per ton of annual CO₂e increase. *See* Exhibit 16 to Conservation Groups' Oct. 30, 2017 Comments, BLM, "Little Willow Creek Protective Oil and Gas Leasing," EA No. DOI-BLM-ID-B010-2014-0036-EA (February 10, 2015) at 81, [https://eplanning.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA UPDATED 02272015.pdf](https://eplanning.blm.gov/epl-front-office/projects/nepa/39064/55133/59825/DOI-BLM-ID-B010-2014-0036-EA_UPDATED_02272015.pdf). Based on this estimate, the agency estimated that the total carbon cost of developing 25 wells on five lease parcels to be \$3,689,442 annually. *Id.* at 83.

Economists have also specifically calculated the costs of climate change on the Montana economy. For example, a study completed by Power Consulting, concludes that economic losses to Montana's tourism industry could result in a loss of 10,922 jobs and \$281 million in earnings if no public policy steps are taken to reduce greenhouse gas emissions. Power Consulting Inc., *Impact of Climate Change on MT Outdoor Economy* vii (2015), <http://montanawildlife.org/wp-content/uploads/2015/12/Impact-of-Climate-Change-on-the-Montana-Outdoor-Economy-Dec-2015-Final-Report.pdf>. A summary of the results from this study are highlighted in the table below.

Power Consulting has also completed a similar study on the climate impacts on agriculture in Montana. This study concluded that "the total impact on employment is the loss of about 25,000 jobs and the \$736 million in labor earnings by 2055." This information is summarized in the table below. Power Consulting Inc., *The Impact of Climate Change on Montana's Agriculture Economy* 17 (2016), http://montanafarmersunion.com/wp-content/uploads/2016/02/FINAL_Impact_Climate_Change_MT_Ag_Econ_Power_Consulting_2-24-2016.pdf.

To be certain, the social cost of carbon protocol presents a conservative estimate of economic damages associated with the environmental impacts climate change. As the

EPA has noted, the protocol "does not currently include all important [climate change] damages." Exhibit 7 at 1. As explained:

The models used to develop (social cost of carbon] estimates do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the nature of damages and because the science incorporated into these models naturally lags behind the most recent research.

Id. In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published last fall found that current estimates for the social cost of carbon should be increased six times for a mid-range value of \$220 per ton. *See* Exhibit 17 to Conservation Groups' Oct. 30, 2017 Comments, Moore, C.F. and B.D. Delvane, "Temperature impacts on economic growth warrant stringent mitigation policy," *Nature Climate Change* 2 (January 12, 2015). In spite of uncertainty and likely underestimation of carbon costs, nevertheless, "the SCC is a useful measure to assess the benefits of CO₂ reductions," and thus a useful measure to assess the costs of CO₂ increases. Exhibit 7.

That the economic impacts of climate change, as reflected by an assessment of social cost of carbon, should be a significant consideration in agency decision making, is emphasized by a recent White House report, which warned that delaying carbon reductions would yield significant economic costs. *See* Exhibit 18 to Conservation Groups' Oct. 30, 2017 Comments, Executive Office of the President of the United States, "The Cost of Delaying Action to Stem Climate Change," (July 2014). As the report states:

[D]elaying action to limit the effects of climate change is costly. Because CO₂ accumulates in the atmosphere, delaying action increases CO₂ concentrations. Thus, if a policy delay leads to higher ultimate CO₂ concentrations, that delay produces persistent economic damages that arise from higher temperatures and higher CO₂ concentrations. Alternatively, if a delayed policy still aims to hit a given climate target, such as limiting CO₂ concentration to given level, then that delay means that the policy, when implemented, must be more stringent and thus more costly in subsequent years. In either case, delay is costly.

Id. at 1.

The requirement to analyze the social cost of carbon is supported by the general requirements of NEPA and is specifically supported in federal case law. Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the U.S. Court of Appeals for the Ninth Circuit ordered the National Highway Traffic Safety Administration to include a monetized benefit for carbon emissions reductions in an Environmental Assessment prepared under NEPA. *Center for Biological Diversity v. National Highway Traffic*

Safety Administration, 538 F.3d 1172, 1203 (9th Cir. 2008). The Highway Traffic Safety Administration had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. The Administration had monetized the employment and sales impacts of the proposed action. *Id.* at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. *Id.* at 1200. The court found this argument to be arbitrary and capricious. *Id.* The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. *Id.* It further noted that other benefits, while also uncertain, were monetized by the agency. *Id.* at 1202.

More recently, a federal court has done likewise for a federally-approved coal lease. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. *See High Country Conservation Advocates v. U.S. Forest Service*, 52 F.Supp. 3d 1174 (D. Colo. 2014) (citing 40 C.F.R. § 1502.23). However, when an agency prepares a cost-benefit analysis, "it cannot be misleading." *Id.* at 1182 (citations omitted). In that case, the NEPA analysis included a quantification of benefits of the project, but, the quantification of the social cost of carbon, although included in earlier analyses, was omitted in the final NEPA analysis. *Id.* at 1196. The agencies then relied on the stated benefits of the project to justify project approval. This, the court explained, was arbitrary and capricious. *Id.* Such approval was based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. *Id.* Furthermore, the court reasoned that even if the agency had decided that the social cost of carbon was irrelevant, the agency must still provide "justifiable reasons for not using (or assigning minimal weight to) the social cost of carbon protocol" *Id.* at 1193 (emphasis added).

A federal court recently reaffirmed this reasoning, as well. In August 2017, a district court in Montana cited to the *High Country* decision and concurred with it. *See Montana Env'tl. Info. Ctr. v. U.S. Office of Surface Mining*, No. CV 15-106-M-DWM, 2017 WL 3480262, at *14 (D. Mont. Aug. 14, 2017). The court then rejected a NEPA analysis for a coal mine expansion that touted the economic benefits of the expansion without assessing the carbon costs that would result from the development. *Id.*

A recent op-ed in the New York Times from Michael Greenstone, the former chief economist for the President's Council of Economic Advisers, confirms that it is appropriate and acceptable to calculate the social cost of carbon when reviewing whether to approve fossil fuel extraction. *See Exhibit 19 to Conservation Groups' Oct. 30, 2017 Comments*, Greenstone, M., "There's a Formula for Deciding When to Extract Fossil Fuels," New York Times (Dec. 1, 2015), available at <https://www.nytimes.com/2015/12/02/upshot/theres-a-formula-for-deciding-when-to-extract-fossil-fuels.html>. Just this year, the Proceedings of the National Academy of Sciences of the United States of America ("PNAS"), acknowledged in a peer-reviewed

article from February of this year that the social cost of carbon analysis is "[t]he most important single economic concept in the economics of climate change," and that "federal regulations with estimated benefits of over \$1 trillion have used the SCC." Exhibit 20 to Conservation Groups' Oct. 30, 2017 Comments, William D. Nordhaus, Revisiting the Social Cost of Carbon, PNAS, Feb. 14, 2017, <http://www.pnas.org/content/114/7/1518.full.pdf>.

BLM presents multiple arguments as to why it fails to use the social cost of carbon metric to assess the significance of greenhouse gas emissions from the lease sale. First, BLM argues that the public would not understand the social cost of carbon protocol and that a qualitative discussion about potential impacts is more effective. *See, e.g.*, Billings EA, App'x G at 18-19. But, quantitatively assessing the significance of greenhouse gas emissions within the context of climate change is essential for the public's understanding of federal oil and gas leasing, and a qualitative analysis fails to do this. Further, the BLM's decision to not disclose the social cost of carbon results in a more misleading analysis. For example, the BLM includes specific charts in each EA which disclose the expected revenue associated with the March sale (*see, e.g.*, Hi-Line EA, Table 19 below), but fails to include the cost of releasing additional greenhouse gases into the atmosphere. Thus, BLM is creating bias in its NEPA analysis toward approving the proposed action.

In response to this, BLM argues that revenue chart does not present an "economic benefit," and that its analysis is therefore not a "cost-benefit analysis" which requires the use of the social cost of carbon to assess the costs. Billings EA, App'x G at 19. This argument is hard to take with a straight face. A quick Google search for the definition of "economic benefit" yields the following result: "[b]enefit quantifiable in terms of money, such as revenue, net cash flow, net income." It is common sense that any county in Montana receiving \$10,000 in bonus bid money would treat it as a benefit. Finally, there is no doubt that BLM has the capability to assess the social cost of carbon for a lease sale. As demonstrated by Exhibits 15 and 16 to Conservation Groups' October 30, 2017 comments on the draft EA, the Montana BLM, including the Billings Field Office, has assessed the social cost of carbon on multiple occasions before. For example, in an EA for the October 2014 oil and gas lease sale, the BLM stated,

The leasing of these minerals by the BLM would generate about \$2,200 in Federal revenue. The redistribution of Federal revenue associated with leasing of these Federal minerals is estimated to generate nearly \$1,000 in State revenue for Montana and approximately \$400 in local public revenue in Yellowstone County.... The annual SCC associated with oil and gas development within Yellowstone County is \$662 (in 2011 dollars) based on 2,757 cumulative acres.

Exhibit 15 to Conservation Groups' Oct. 30, 2017 Comments, BLM, "Environmental Assessment for October 21, 2014 Oil and Gas Lease Sale," DOI-BLM-MT-0010-2014-0011-EA (May 19, 2014) at 76,

[https://www.blm.gov/sites/blm.gov/files/MT-DAKs%20BillingsFinal%20EA Oct 21 2014.pdf](https://www.blm.gov/sites/blm.gov/files/MT-DAKs%20BillingsFinal%20EA%20Oct%202014.pdf).

Clearly, the social cost of carbon provides a useful, valid, and meaningful tool for assessing the climate consequences of the proposed leasing, and the BLM's failure to discuss it while simultaneously discussing the benefits of oil and gas development is arbitrary and capricious. While we do not suggest that a comprehensive cost-benefit analysis is required, the fact that economic benefits are disclosed in the EA (Billings EA at 91-92, Butte EA at 58-60, Hi-Line EA at 79-80) indicates that costs and benefits are useful for assessing the significance of the proposed leasing. To this end, the BLM must disclose carbon costs in order to fully assess the significance of climate impacts and support any FONSI.

BLM Response:

Potential emissions of air pollutants from the exploration, development, and onsite production phases associated with the RFD for these parcels have been addressed in the BFO, BiFO and HiLine RMPs/FEISs. In addition, the leasing EAs show estimated air pollutant emissions based on the potential RFD for this lease sale proposal. Calculations are based on typical development and production scenarios within the FO planning areas. The EAs also show the estimated downstream GHG emissions due to 100% combustion of product based on the potential RFDs for this lease sale proposal.

The direct, indirect, and cumulative impacts from oil and gas development on air resources were further analyzed in Chapter 3 of the BFO, BiFO and HiLine ARMPs/FEISs. See responses to F and G above.

Additional detailed information on estimated air pollutant emissions (including GHGs) can be found in the Air Resource Technical Support Document (ARTSD) for Emission Inventories, Near-Field Modeling, and Visibility Screening, October 2014 (BLM ARTSD, 2014). The air resources analysis includes a discussion of short term and long term impacts to air quality from reasonably foreseeable oil and gas development.

There are different approaches that an agency can take to examine climate impacts associated with greenhouse gas emissions, with the social cost of carbon/greenhouse gases estimates being just one metric that could be used. The BLM examined the possible use of social cost of carbon/greenhouse gas estimates and determined to use a different approach for this EA that quantified greenhouse gas emissions as the common metric used and then qualitatively discussed potential climate impacts. The BLM took this approach for several reasons. First, climate change and potential climate impacts, in and of themselves, are often not well understood by the general public (Etkin and Ho 2007, National Research Council 2009). This is in part due to the challenges associated with communicating about climate change and climate impacts, stemming in part from the fact that most causes are invisible factors (such as greenhouse gases) and there is a long lag time and geographic scale between causes and effects (National Research Council 2010). Research indicates that for difficult environmental issues such as climate change, most people more readily understand if the issue is brought to a scale that is relatable to their everyday

life (Dietz 2013); when the science and technical aspects are presented in an engaging way such as narratives about the potential implications of the climate impacts (Corner, Lewandowsky, Phillips, and Roberts 2015); use examples and make information relevant to the audience while also linking the local and global scales (National Research Council 2010). In order to more effectively convey the potential climate impacts, the BLM quantified greenhouse gas emissions as a common metric and discussed narratively climate impacts. This approach presents the data and information in a manner that follows many of the guidelines for effective climate change communication developed by the National Academy of Sciences (National Research Council 2010) by making the information more readily understood and relatable to the decision-maker and the general public. The projected climate impacts to the regional area that covers the parcels offered for lease provides a narrative in a scale that is more relevant to the decision-maker and the general public since it provides more detailed specifics on potential implications to their everyday life--such as warmer temperatures and less snowfall, more frequent more severe droughts, and increased chance of stressed ecosystems, etc.

This does not discount the quantified greenhouse gas emissions nor the qualitative discussions of global, US and state level impacts, but provides a meaningful and engaging way to connect the reader to more relevant impacts that then allow them to make the connections to the state, US and global impacts. The approach taken by the BLM for the EAs to discuss climate change provides impacts at several scales whereas the social cost of carbon metric only provides an impact metric at the global scale. This limits the usefulness for the decision-maker given the lack of information on more localized impacts.

Second, as articulated in the response to comments the economic impact analysis conducted as part of the lease sale EAs assessed potential federal revenues that could be collected from bonus bids and annual rental payments on nominated parcels leased in this upcoming lease sale. Revenues associated with leasing these parcels would stimulate economic activity as these dollars are disbursed and/or spent, and the resulting economic impacts of these dollars are analyzed and expressed in terms of their effect on employment; personal income; or economic output in the economic analysis of oil and gas development in the regional economic impact analysis in the BFO, BiFO and HiLine RMPs/FEISs. Economic impact analyses, such as was done for the RMPs/FEISs, describe effects that agency activities may have on economic conditions and local economic activity, generally expressed as projected changes in employment, labor income, and economic output (Watson, Wilson, Thilmany, and Winter 2007). It is important to note that results from an economic impact analysis should not be considered as benefits or costs (Watson et al. 2007).

Whereas an economic impact analysis evaluates changes in economic activity, a cost-benefit analysis is an approach used to determine economic efficiency by focusing on changes in social welfare by comparing whether the monetary benefits gained by people from an action/policy are sufficient in order to compensate those made worse off and still achieve net benefits (Watson et al. 2007, Kotchen 2011). To summarize, cost-benefit analyses and regional economic impact analyses are very different methods that are focused on quantifying/monetizing different measures (social welfare and economic activity respectively) and are based upon differing

assumptions and terminology and are not interchangeable. Furthermore, Watson et al. (2007) explicitly stated that an economic impact does not equate to any measure of net welfare change and that an economic impact analysis is not the same as a benefit-cost analysis, and the term ‘economic benefit’ should be used only in the context of cost-benefit analysis. As such, nowhere in this EA does the BLM refer to the potential revenue associated with this lease sale as an economic benefit since that would be incorrect since a cost-benefit analysis was not conducted. Consequently, the increased economic activity, discussed in terms of revenue, employment, labor income, total value added, and output are simply the economic impacts associated with the alternatives. People, based upon their views and values, may perceive this increased economic activity as a ‘positive’ impact that they desire to have occur; however, that is very distinct from being an “economic benefit” as defined in economic theory and methodology (Watson et al. 2007, Kotchen 2011). Additionally, another person may perceive increased economic activity as a ‘negative’ impact due to potential in-migration of new people, competition for jobs, and concerns that newcomers will change the sense of community and community qualities that are important to herself/himself. Therefore, it is critical to distinguish that how people may perceive an economic impact is not the same as, nor should be interpreted as, a cost or a benefit as defined in a cost-benefit analysis.

Furthermore, the court in *High Country Conservation Advocates, et al. v. United States Forest Service*, 52 F. Supp. 3d 1174 (D. Colo. 2014) did not order the agency to use the Social Cost of Carbon protocol. Rather, the Court held that the agency did not offer non-arbitrary reasons why the quantification of the lease modifications’ contribution to the social cost of carbon were abandoned in the FEIS. The Court determined that the agency did not demonstrate that it took a “hard look” at whether using the Social Cost of Carbon protocol should not have been included in the FEIS when the protocol was included in the DEIS (*Id.* at 1191-1192).

Moreover, a recent Executive Order (EO) entitled, “Promoting Energy Independence and Economic Growth,” issued March 28, 2017, directed that the Interagency Working Group (IWG) be disbanded and that technical documents issued by the IWG on social costs of carbon be withdrawn as no longer representative of governmental policy (Section 5 of the EO).

Finally, protesters have provided no information as to how presenting GHG emissions in a singularly monetary fashion without accounting for the cost from not developing these minerals in the context of FLPMA’s mandate to provide for the nation’s energy needs, provides information BLM has not already considered in disclosing the expected impacts from climate change and GHGs resulting from the offering of parcels for sale. Without any other monetized benefits or costs reported, monetized estimates of the SCC would be presented in isolation, without any context for evaluating their significance. This limits the usefulness of such estimates to the decision maker. The approach taken for the leasing EAs provides quantitative GHG emissions as a common metric across alternatives and qualitatively discusses climate impacts, thus effectively informing the decision-maker and the public of potential climate impacts at global, US, state, and regional scales. This approach allows the BLM to meet the “hard look” requirement by presenting the environmental impacts of the proposal and the alternatives in comparative form (quantified greenhouse gas emissions), and discusses

cumulative climate impacts, providing for the definition of issues and environmental consequences ensuring that an informed decision can be made.

II. The Proposed Leasing in the Billings and Butte FOs and the North Central Montana District Office Appears to Violate the Mineral Leasing Act.

Finally, the BLM's proposed leasing in the two Montana field offices and North Central District Office in Montana runs afoul of the MLA in two key regards. First, it does not appear that most of the lease parcels contain lands that are known or believed to contain oil or gas deposits. Second, it does not appear that there is any intent of any lessee to diligently develop many of the proposed parcels.

On the first matter, the Mineral Leasing Act allows leasing only where there are lands that are "known or believed to contain oil or gas deposits." 30 U.S.C. § 226(a). Here, it unclear whether all of the lease parcels include lands that are known or believed to contain oil and gas deposits. For example, all of the lease parcels analyzed in the Butte FO EA, are located in areas with very low to low development potential. Butte FO EA at 12.

At a minimum, the BLM has a duty to confirm where lands proposed for leasing are known or believed to contain oil and gas deposits. Here, the agency appears to have undertaken no such diligence in confirming whether the oil and gas industry's supposed interest in the proposed lease parcels is rooted in the existence or believed existence of oil and gas deposits.

On the second matter, the BLM cannot lease lands for oil and gas development if there is no intent to diligently develop. The agency confirmed this in a recent decision denying the issuance of an oil and gas lease to a lessee, explaining:

A fundamental requirement of every oil and gas lease, as stated in Section 4 on page 3 of Form 3100-1, is the requirement that the "Lessee must exercise reasonable diligence in developing and producing, and must prevent unnecessary damage to, loss of, or waste of leased resources." This diligent development requirement has its basis in the Mineral Leasing Act of 1920, as amended. See 30 U.S.C. § 187. Thus, an expressed intent by a person offering to purchase a lease to not develop and produce the oil and gas resources on the leasehold would directly conflict with the diligent development requirement and require that the offer be rejected.

Exhibit 21 to Conservation Groups' Oct. 30, 2017 Comments, BLM, Oil and Gas Noncompetitive Lease Offers Rejected (Oct. 18, 2016). Here, the BLM appears to explicitly acknowledge that there is no explicit intent to develop any of the proposed lease parcels. The agency itself discloses in the various EAs that it is reasonable to presume that most, if not all, of the parcels, will never be developed. For example, out of 76 parcels proposed for the Billings FO EA, the BLM presumes 54 will be developed.

Billings FO EA at 17. For the Butte FO, as noted above, all nine proposed lease parcels are in low to very low development areas and the EA estimates that only 4 wells may be drilled from these parcels. Butte FO EA at 12. And, for the parcels located in the northern Montana, the BLM estimates that 11 wells will be drilled on 24 parcels. Hi-Line EA at 17. These admissions explicitly indicate that a large number of the leases will have no wells developed upon them and no wells developed to access their minerals. Given this, it is completely evident that any lessee would have no intent to diligently develop many of the proposed lease parcels and that the BLM is not legally justified in proceeding to offer them for sale.

The BLM has recently confirmed that leasing in areas with low development potential and little to no industry interest warrants removing parcels from proposed sales. In Colorado, the agency recently removed 20 parcels totaling 27,529 acres in Grand County from a proposed lease sale, citing "low energy potential and reduced industry interest in the geographic area[.]" Exhibit 22 to Conservation Groups' Oct. 30, 2017 Comments, BLM, "BLM modifies parcel list for June 2017 oil and gas lease sale" (April 17, 2017). At a minimum, the BLM cannot proceed to lease the proposed lands without conducting some kind of verification that there is intent to develop. Here, the agency appears to have undertaken no such verification. In fact, in response to a Freedom of Information Act request in which WildEarth Guardians requested records pertaining to any instance in which the BLM evaluated the likelihood of development of oil and gas leases in Montana, the agency responded that "there are no records responsive[.]" Exhibit 23 to Conservation Groups' Oct. 30, 2017 Comments, Final Response to FOIA No. BLM-2017-00678 (July 7, 2017). The BLM cannot blindly offer to lease public lands for oil and gas development without undertaking some steps to confirm that there exists reasonable development potential. If the agency does not, then it is failing to verify that potential lessees will exercise diligent development in accordance with the Mineral Leasing Act.

In response to this, the BLM again argues that the RMPs/FEISs for each field office are the source of the proposed development numbers and that "[t]he Montana/Dakotas State Office is unaware of potential lessee intentions to violate the diligent development requirement." *See, e.g.*, Billings EA, App'x G at 62-63. But, as discussed in depth above, the BLM has a duty to analyze site-specific impacts for the proposed action, and an affirmative duty to assess the due diligence of each potential lessee as it did in the case of Ms. Tempest-Williams (Exhibit 21 to Conservation Groups' Oct. 30, 2017 Comments, BLM, Oil and Gas Noncompetitive Lease Offers Rejected (Oct. 18, 2016)). The BLM must apply equal treatment to all potential lessees, especially because the agency has a duty to the American people to ensure a fair return on public minerals. As it stands, there is no basis for concluding that the lands proposed for leasing are known or believed to contain oil and gas deposits, or that there is any intent to diligently develop any of the proposed leases. Accordingly, the BLM is not legally justified under the Mineral Leasing Act in proceeding with the proposed leasing and the March 2018 lease sale must be canceled.

BLM Response:

The method used to determine a potential Reasonably Foreseeable Development scenario for the lease sale is outlined in Section 3.2 of the leasing EAs. The ARMPs and associated FEISs list the proposed counties within a development potential, which demonstrates the presence of oil and gas deposits within the respective counties.

Low development potential does not indicate the absence of oil and gas in the area. There are numerous factors that contribute to development potential in an area. As stated in Section 3.2 of the EAs, "These well numbers are only an estimate based on historical drilling, geologic data, resource expertise, and current development in the area." BFO EA at 11. BiFO at 15. NCMD EA at 13.

Leases are issued in accordance to Federal laws, regulations, and policy. The ARMPs did not designate the parcel lands under review as closed to oil and gas leasing; therefore, BLM applied the necessary RMP approved stipulations to the respective lease parcels, which include stipulations associated with resources and resource uses identified in the ARMPs. See EAs at Appendix A.

It is the policy of the BLM to make mineral resources available for use and to encourage development of mineral resources to meet national, regional, and local needs. This policy is based on various laws, including the MLA of 1920 and the FLPMA of 1976. The Federal Onshore Oil and Gas Leasing Reform Act of 1987 Sec. 5102(a)(b)(1)(A) directs the BLM to conduct quarterly oil and gas lease sales in each state whenever eligible lands are available for leasing.

- 43 C.F.R. § 3120.1-2

Each proper BLM State Office shall hold sales at least quarterly if lands are available for competitive leasing.

- MLA of 1920 as amended- Subtitle B Federal Onshore Oil and Gas Leasing Reform Act of 1987 (FOOGLRA)

Lease sales shall be held for each State where eligible lands are available at least quarterly....

- Washington Office Instruction Memorandum 2010-117 Oil and Gas Leasing Reform

State offices will continue to hold lease sales four times per year, as required by the Mineral Leasing Act, section 226(b)(1)(A) when eligible lands are determined by the state office to be available for leasing.

- Montana State Office Oil and Gas Leasing Reform Implementation Plan August 2010

All Montana Oil and Gas Competitive Lease Sales are subject to the following laws, regulations and policies: Required by law and regulation to hold lease sales at least quarterly if lands are available (Public Law 100-203, Sec. 5102, dated 12/22/87 (FOOGLRA)).

IV. CONCLUSION

The Protesters requested that the BLM withdraw 109 parcels from the MSO, March 13, 2018, Competitive Oil and Gas Lease Sale. The Protesters contend that the BLM 1) improperly segments the Lease Sale into three EAs; 2) improperly defers site-specific NEPA to the APD stage; 3) failed to analyze a reasonable range of alternatives; 4) failed to analyze impacts of hydraulic fracturing and horizontal drilling; 5) failed to accurately estimate the RFD for the lease parcels; 6) failed to assess the direct, indirect and cumulative impacts of air and GHG emissions; 7) failed to analyze the costs of carbon emissions; and 8) appears to violate the MLA.

The BLM Montana State Director has decided to defer three (3) BFO parcels and 23 BiFO parcels from the MSO, March 13, 2018, Competitive Oil and Gas Lease Sale. The protest of these 26 parcels is dismissed as moot. The protest of the other 83 parcels is dismissed for the reasons stated above.

The BLM dismisses this protest for the reasons stated above.

The BLM, in accordance with existing regulations and policies, will defer leasing actions on 26 parcels in the BFO and BiFO planning areas. See Enclosure 3 for a description of the deferred parcels. The BLM will offer for lease the other 83 protested parcels as described in the MSO, March 13, 2018, Notice of Competitive Oil and Gas Lease Sale.

Administrative Review and Appeal

This Decision may be appealed to the Interior Board of Land Appeals (IBLA), Office of the Secretary, in accordance with the regulations contained in 43 C.F.R. § 4 and Form 1842-1 (Enclosure 2). If an appeal is taken, the Notice of Appeal must be filed in the Montana State Office at the above address within 30 days from receipt of this Decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition for a stay of the effectiveness of this Decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay must show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for stay **must** be submitted to the IBLA and the appropriate Office of the Solicitor (see 43 C.F.R. § 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulations, a petition for a stay of a decision pending appeal shall be evaluated based on the following standards:

1. The relative harm to the parties if the stay is granted or denied;
2. The likelihood of the appellant's success on the merits;
3. The likelihood of immediate and irreparable harm if the stay is not granted; and
4. Whether the public interest favors granting the stay.

/s/ Donato J. Judice

Donato J. Judice
Deputy State Director
Division of Energy, Minerals, and Realty

3 Enclosures

- 1-WEG Protest Letter Dated January 11, 2018 (33 pp)
- 2-Form 1842-1 (2 pp)
- 3-Description of Deferred Parcels (5 pp)